



## ER Site No. 232: Storm Drain System Outfall (SouthEast of TA-IV)

ADS: 1309

Operable Unit: Tijeras Arroyo

Site History .....	1
Constituents of Concern.....	2
Current Hazards .....	2
Current Status of Work .....	2
Future Work Planned .....	3
Waste Volume Estimated/Generated .....	3

Primary Contact: [Dick Fate](#)

Office Phone: 284-2568

### Site History

ER Site 232 consists of two sites (ER Sites 232-1 and 232-2) that are located on the southeast side of TA-IV. Both sites are located on unpaved ground along the steep northern rim of Tijeras Arroyo. ER Sites 232-1 and 232-2 cover 0.01 and 0.02 acres, respectively. The outfalls were built in the early 1980s.

ER Site 232-1 consists of a 70-foot long earthen ditch that receives storm water from an unpaved area on the southeast side of Building 970A. No chemical spills have occurred in the area that drains to ER Site 232-1. Storm water is directed to the site through buried piping and a concrete ditch.

ER Site 232-2 consists of a 90-foot long earthen ditch that receives storm water from paved areas surrounding Building 983. Storm water is directed to the site through buried piping and a drop structure. On June 1, 1994 approximately 150 to 300 gallons of mineral oil (petroleum-based) flowed on to the ground surface at ER Site 232-2 after being spilled from an aboveground tank near Building 986.

Four other storm-water outfall systems are also located below TA- IV (ER Sites [230](#), [232](#), [233](#), and [234](#)). The TA-IV outfalls are designed to reduce the amount of soil erosion caused by storm water. The TA-IV outfalls were added to the ER Site list in 1993. However, no industrial waste streams are discharged at the outfalls. According to National Pollutant Discharge Elimination System (NPDES) guidance, only one of the TA-IV outfalls requires monitoring because all of the TA-IV outfalls receive storm water from similar sources. The SNL/NM Storm Water Program performs that monitoring about 50 feet upslope of ER Site 233 at Station 006 and reports the analytical data to the New Mexico Environment Department (NMED) in the SNL/NM Site Environmental Reports. ER Site 232 is the only one of the TA-IV outfalls that has been involved in a spill or release.

## Constituents of Concern

TPH (total petroleum hydrocarbons) is an obvious constituent of concern (COC) for ER Site 232-2. To be consistent with the other TA-IV outfalls, the potential COCs for both ER Sites 232-1 and 232-2 also include chromates, antifoulants, chromium, sodium hydroxide, hydrochloric acid, diesel fuel, and mineral oil (petroleum-based). This list of COCs was conservatively based upon chemicals used at TA-IV. The June 1994 oil spill at ER Site 232-2 resulted in the only known occurrence of stained soil at the two sites. The spilled oil consisted of petroleum-based HERMES oil, which is a mineral oil manufactured with no Polychlorinated Biphenyls (PCBs).

## Current Hazards

No chemical or radioactive hazards are present at ER Site 232.

## Current Status of Work

In 1994, ER Site 232 was surveyed for unexploded ordnance / high explosive (UXO/HE) materials and radioactive anomalies; neither was found.

Two soil-sampling investigations were conducted at ER Site 232-1. In 1994, the first investigation collected eight soil samples to a maximum depth of three feet below ground surface (bgs). The samples were analyzed for VOCs, SVOCs, TPH, metals, and radionuclides. The metals and radionuclides were within naturally occurring background levels. TPH concentrations up to 860 mg/kg (ppm) were reported. Surprisingly, no VOCs or SVOCs were detected. In 1995, the second investigation further defined the extent of TPH in soil. Soil samples were collected at depths of 5, 6, and 10 feet bgs from five GeoProbe boreholes. TPH was the sole analyte for the GeoProbe samples; the maximum TPH value was 32 ppm. Analytical results from the two investigations showed that the extent of TPH concentrations greater than 100 ppm was confined to the northern end of the site next to the concrete ditch.

In 1994, the oil spill at ER Site 232-2 was remediated. The cleanup goal was an overly conservative 100 ppm TPH. A backhoe was used to excavate the oil-contaminated soil. During the cleanup, five methods were used to verify that the cleanup goal was reached: visual observation of soil stains; Hanby immunoassay kit; real-time monitoring with a Flame Ionization Detector (FID); soil analysis with an on-site laboratory; and soil analyses from an off-site commercial laboratory. The resulting trench was 75 feet long. Approximately 429 cubic yards of oil-contaminated soil was shipped to commercial waste management facility. Confirmatory-soil sampling also was performed at ER Site 232-2 in 1995. Soil samples were collected from the walls and floor of the trench. The analyses consisted of VOCs, SVOCs, TPH, metals, and radionuclides. No VOCs or SVOCs were detected. The metals and radionuclides were within background. Only one sample contained TPH; the reported value was 32 ppm TPH. The trench was subsequently backfilled to the original grade.

A No Further Action proposal was submitted to NMED in August 1997. A RSI Response was submitted in September 1999. A NOD Response was submitted in December 1999.

In June 2001, soil samples were collected at both sites with a backhoe. The five samples were collected at depths ranging from 0 to 10 ft bgs. The analytes were VOCs, SVOCs, TPH, PCBs, TAL metals, chromium-VI, gamma-emitting radionuclides, gross alpha/beta, and tritium. No significant contamination was detected.

The SWMU 232 NOD Response was submitted to NMED in December 2002.

## **Future Work Planned**

None

## **Waste Volume Estimated/Generated**

Approximately 429 cubic yards of nonhazardous oil-contaminated soil were generated during the cleanup of ER Site 232-2. No waste has been generated at ER Site 232-1.

**Information for ER Site 232 was last updated Jan 8, 2003.**